

ANNEX 5

An Example of the Format for Gathering Detailed Exposure Information

The information set out in the provisional form in this Annex has been developed and used by the US. This is referred to in the conclusions and recommendations of the Task Force Meeting in Dortmund, Germany, in June 1995 as an example of information to be collected in post-SIDS work when necessary.

**PROVISIONAL FORM FOR SUBMISSION OF DETAILED EXPOSURE INFORMATION DEVELOPED BY
US (EPA/CMA/SOCMA)***

General Instructions

The attached form is intended to provide information for the review of potential chemical concerns. It requests information on chemical releases and worker exposures at sites where the company manufactures the chemical and descriptive information on the uses for which the chemical is distributed to other sites.

Completion of the form is voluntary, and should be based on readily available data and reasonable estimates. The data can be qualified by indicating the evaluation of its accuracy (e.g. release estimate to water +/- 50%).

Parts I through VI of the form are site-specific. If reporting for more than one facility, complete these sections for each. Cover all activities at the site. For example, if the chemical is manufactured and subsequently formulated into consumer products at the facility, the release and exposure data should cover both activities.

Part VII requests more general information about the end uses of the subject chemical which may occur at other facilities or by consumers. This part can be a composite of all activities for which the company distributes the chemical. Alternatively, this part may be completed for only that portion of use(s) supported by the site's production.

(Instructions for submittal of Confidential Business Information are abbreviated here.)

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* This form was developed for use in a pilot project to provide information on releases and use of, and exposure to, specific chemicals undertaken by US EPA, the US Chemical Manufacturers Association and the US Synthetic Organic Chemical Manufacturers Association, begun in August 1993.

I. CHEMICAL IDENTIFICATION

Identify the chemical you are submitting information on:

Chemical name: _____

CAS number: _____

II. COMPANY IDENTIFICATION

Identify the company and location of the facility submitting information:

Company name: _____

Site location: _____

Identify a company technical contact that can respond to inquiries about the information submitted:

Technical contact: _____

Phone: _____

Address: _____

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III. ON-SITE ACTIVITIES

Using ranges if necessary to avoid CBI, estimate the amount of the subject chemical for the last calendar year that your site:

- imported _____ lb/yr
- manufactured _____ lb/yr

If you have already provided the above information to EPA and it is still representative please reference that submission here:

Estimate the amount of subject chemical distributed off-site:

_____ % of manufacture/import

Narrative Description: (This description will be used to determine release and exposure scenarios that may require evaluation by EPA.)

Use the following page to provide a narrative description of on-site activities, providing information that gives an understanding of the nature and extent of potential exposures to the subject chemical. The narrative description should provide a process flow schematic of major unit operations and chemical conversions for manufacturing and on-site uses, if applicable. The schematic should show the points of release of the subject chemical in the workplace and to the environment. The narrative should provide insight into why and how releases are caused by the process. In the event the subject chemical is used in many different processes, provide information on each major process instead of each individual process. Attach additional pages if desired. See sample form for additional guidance.

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Chemical Name:

Company:

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III. ON-SITE ACTIVITIES (continued)

Narrative Description: (see instructions on previous page)

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IV. SITE RELEASE AND TRANSFER INFORMATION FOR TRI CHEMICALS

(Skip this part if you have not reported on the subject chemical for TRI^{**}.)

If the subject chemical is a TRI chemical and you submitted a TRI form for the most recent calendar year, fill out this section and skip section V. Your TRI report already contains all of the information requested in section V. Your TRI report already contains all of the information requested in section V, except for number of release and transfer days/year. Please estimate the following information on days/year of releases and transfers to supplement your TRI report and then fill out sections VI and VII:

AIR RELEASES

- Number of days/year the release occurs: _____
- Fugitive (non-point): _____
- Stack (point): _____

WATER RELEASES

- Number of days/year release occurs: _____

TRANSFER TO PUBLICLY OWNED TREATMENT WORKS (POTW)

- Number of days/year the release occurs: _____

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Toxic Release Inventory in the US

V. **SITE RELEASE AND TRANSFER INFORMATION FOR NON-TRI CHEMICAL**
(For manufacturing and on-site processing/use if applicable)

The information requested in this section will assist the competent authority in determining the likely human and ecological exposures from the chemical releases to the environment. Information will ensure a more accurate representation of potential exposures. Where ranges are provided, and in the absence of better information, estimates of exposures may be based on the value in the range which maximizes exposure.

In this section estimate the total media specific releases of the chemical from your facility. You may estimate the releases by using monitoring data or any other method you believe appropriate. Estimates should be reported in pounds per year for the last calendar year. Enter the values as whole numbers to not more than two significant figures. For example, if your annual releases are estimated to be 92,360 lb, an estimate of 92,000 lb should be sufficient.

If desired, you can approximate the accuracy of the annual release estimates as a percent. For example, an estimate of stack (point) air releases of 1000 pounds with an accuracy of ± 20 percent would indicate that the releases could range from 800 to 1200 pounds per year, but not outside this range.

Estimate the number of days per year the release occurs. Enter a whole number with a maximum of 2 significant figures.

Insert "NA" for release activities not associated with the chemical or "0" for releases less than 0.5 pounds per year.

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(Part V continued)

A. ON-SITE AIR RELEASES

Estimate the total fugitive or non-point releases to air and the number of days/year the releases occur. This would include: equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines; evaporative losses from surface impoundments and spills; releases from building ventilation systems; and any other fugitive or non-point air emission.

In addition, estimate the total releases that occur through stacks, vents, pipes, or other confined air streams as stack or point source releases. Include storage tank emissions and releases from pollution control equipment.

If desired, you can provide estimates of the accuracies of your release estimates.

	Estimated Total Annual Releases (lbs.)	Estimated % Accuracy of Estimate (Optional)	Number of days/years release occurs
Fugitive (non-point)			
Stack (point)			

Comments: (This section is available to clarify responses given. Attach additional pages if desired.)

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Chemical Name:

Company:

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(Part V continued)

B. WATER RELEASES FROM SITE

Estimate the total releases of the chemical leaving the fenceline of your facility from all discharge points to all streams or water bodies. Include all discharges from process outfalls such as pipes, open trenches, releases from on-site wastewater treatment, and contribution from storm water runoff, if applicable. Do not include discharges to a POTW or other off-site wastewater treatment facilities. If desired, you can provide an estimate of the accuracy of your estimate of releases.

	Estimated Total Annual Releases (lbs.)	Estimated % Accuracy of Estimate (Optional)
Water releases		

Number of days/year release occurs:.....

Receiving Water Name:.....

Comments: (This section is available to clarify responses given. Attach additional pages if desired.)

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(Part V continued)

C. ON-SITE LAND RELEASES

Estimate the total releases of the chemical for each category of land disposal, if applicable. Estimate only on-site release. Do not estimate leaks from landfills separately. This should be accounted for in your estimate of total landfill release.

Releases to Land Treatment/Land Amendment includes all waste containing the chemical that is applied or incorporated into soil on-site. Do not include waste that is landfilled.

Surface impoundments are natural topographic depressions, man-made excavations, diked areas formed primarily of earthen materials designed to hold an accumulation of the chemical.

Other releases include any amount of the chemical that is released to land other than those listed. An example may be the accidental release of the chemical from an underground pipeline or storage tank.

	Estimated Total Annual Releases (lbs.)	Estimated % Accuracy of Estimate (Optional)
Landfill		
Land Treatment/Land Amendment		
Surface Impoundments		
Underground Injection		
Other (specify):		

Comments: (This section is available to clarify responses given. Attach additional pages if desired.)

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(Part V continued)**D. OFF-SITE TRANSFERS**

Estimates of off-site transfers should be similar in accuracy and precision as earlier release estimates.

D1. Transfer to Publicly Owned Treatment Works (POTW)

Number of days/years the release occurs: _____

Estimate the total quantity of the subject chemical, not the waste stream, transferred to the POTW. Complete section V.A. for each POTW to which your facility discharges wastewater containing the chemical.

Annual Transfer (lb): _____

Estimated % Accuracy of Transfer Estimate (optional) (%): _____

POTW Name: _____

Street Address: _____

City: _____ Country: _____

State: _____ Zip Code: _____

Comments: (This section is available to clarify responses given. Attach additional pages if desired.)

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D2. TRANSFERS TO OTHER OFF-SITE LOCATIONS

In this section estimate the quantity of the subject chemical, not the waste stream, transferred and the accuracy of the estimate for each category listed. If your facility sends the subject chemical in waste to an off-site location where some of the chemical is to be recycled while the remainder to be treated, estimate each separately (i.e., waste treatment and recycle activities).

	Estimated Annual Transfers (lbs.)	Estimated % Accuracy of Estimate (Optional)
Incineration		
Wastewater Treatment (excluding POTW)		
Underground Injection		
Hazardous Waste landfill		
Other landfill		
Recycle or Recovery		
Unknown or Other		

Comments: (This section is available to clarify responses given. Attach additional pages if desired.)

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VI. ON-SITE WORKPLACE EXPOSURE

This information will assist the competent authority in characterizing the number of workers potentially exposed and the magnitude, frequency, and duration of potential exposure. When providing monitoring data, ensure that data is linked with worker activities described in question 2.

1. Estimate the number of workers potentially exposed routinely to the subject chemical for each of the exposure duration times. If a worker is involved in more than one activity, enter only his/her most typical activity in the table. Don't count a worker more than once. The total number in the table should equal the total number of workers potentially exposed.

hrs/day	Days/year			
	<10	10-100	100-250	>250
<.25				
.25 - 1				
1 - 8				
>8				

2. Describe the routine worker activities to which the workers in question 1 are exposed: sampling, removal of filter cake, and drumming of liquids, manufacture an article, etc. For these activities describe the physical state of the subject chemical: liquid, gas, particulate, or aerosol, etc., and if in a mixture, the chemical's concentration:

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(Part VI continued)

3. Provide industrial hygiene monitoring data, if available, with a brief description of the sampling method and exposure scenario monitored, e.g. described the specific worker activities performed by the individuals monitored:

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4. Briefly describe the engineering controls used to minimize exposure to this chemical:

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5. Briefly describe the personal protective equipment your workers regularly wear to prevent exposure of this chemical:

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Comments: (This section is available to clarify responses given. Attach additional pages if desired.)

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VI. CHEMICAL END USES

The Chemical End Uses section provides the competent authority information which the agency can use to identify likely exposure scenarios and estimate exposure levels for populations of interest. The information in the form alerts the competent authority to the presence of the chemical of interest in a consumer, commercial, or industrial product that may lead to exposure either directly through use or indirectly through release to the environment. Knowledge that a chemical is consumed as an intermediate or is a catalyst that never leaves the user's site tells the competent authority that the chemical is a product where no further exposure occurs. The physical form of the chemical and the percent concentration can be used to estimate exposure concentrations.

A. END USE AS AN INTERMEDIATE CONSUMED TO MAKE OTHER CHEMICALS

List your major product chemical classes that consume the highest volume of the subject chemical on-site (A1) and off-site (A2). If you manufacture a small number of distinct chemicals using the subject chemical, you may prefer to list specific chemical names rather than chemical classes. Distinguish between on-site use as an intermediate and off-site use as an intermediate. Also provide, for each use, a percentage of the total volume manufactured or imported, using total reported in Part III, page 2. You may wish to provide ranges for this data to avoid revealing CBI.

A1. On-site Uses as an Intermediate:

This information will be used by EPA to develop a sense of the extent of manufacturing and processing operations at your facility that may lead to potential exposures to the subject chemical.

Product chemical class or product chemical (Include CAS number if appropriate)	% of total (as reported in Part III, p.2) volume of subject chemical manufactured or imported
1.	%
2.	%
3.	%
4.	%
5.	%

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(Part VIIA continued)

A2. Off-site Uses as an Intermediate:

This information will be used by the competent authority to identify downstream use of the chemical as an intermediate. This information will be used to identify the potential for additional exposures to the subject chemical.

Product chemical class or product chemical (Include CAS number if appropriate)	% of total (as reported in Part III, p.2) volume of subject chemical manufactured or imported
1.	%
2.	%
3.	%
4.	%
5.	%

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(Part VII continued)**B. END USES OTHER THAN AS A CONSUMED INTERMEDIATE**

Please complete an end use section on the following page (page 16) for each known non-intermediate end use of the chemical. Please copy page 16 to allow for completion of as many end use sections as necessary to account for all non-intermediate end uses of the chemical known to you.

Describe, as far as you know, the function, the application, and the setting for each of the non-intermediate end uses of the chemical. End Use here means the final product or article in which the chemical occurs prior to ultimate treatment, disposal or recycling.

EXAMPLES:

- 1) An adhesive (function) for wood products fabrication of underlayment (application) used in residential dwellings (setting).
- 2) A filler (function) in caulking (application) used in construction of marine vessels (setting).
- 3) A solvent (function) used in paint strippers (application) in an industrial setting (setting).

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B. END USES OTHER THAN AS CONSUMED INTERMEDIATE
(copy to cover all non-intermediate end uses)

Use Number _____ of _____

Description of chemical end use.....

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Percent of total manufactured or imported volume going to this use _____% _____%

If used in a mixture check appropriate box to indicate weight fraction. Average values are acceptable:

- ☐ <1%
☐ -30%
☐ 30-60%
☐ 60-90%
☐ >90%

Check all physical forms of this use:

- ☐ Aerosol
☐ Dry Powder
☐ Pellets or large crystals
☐ Water- or solvent- wet solid
☐ Gas- or vapor
☐ Liquid solution
☐ Other (Please explain.).....
.....
.....

Use Number _____ of _____

Description of chemical end use.....

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.....
.....

Percent of total manufactured or imported volume going to this use _____% _____%

If used in a mixture check appropriate box to indicate weight fraction. Average values are acceptable:

- ☐ <1%
☐ 1-30%
☐ 30-60%
☐ 60-90%
☐ >90%

Check all physical forms of this use:

- ☐ Aerosol
☐ Dry Powder
☐ Pellets or large crystals
☐ Water- or solvent- wet solid
☐ Gas- or vapor
☐ Liquid solution
☐ Other Please explain.).....
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